

Evidence for a behavioral syndrome and negative social assortment by exploratory personality in the communally nesting rodent, *Octodon degus*

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Abstract

Recent research in behavioural ecology has revealed the structure of animal personality and connections to ecologically and evolutionarily important traits. Personality is hypothesized to influence social interactions through individual behavioural differences or personality-based dyadic interactions. We describe the structure of personality traits and ask if two traits, boldness and exploration, play a role in the strength or pattern of social associations in a wild population of degus, a rodent that often lives communally with unrelated conspecifics. Boldness was repeatable in both adults and juveniles, but exploration was only repeatable in adults. We found evidence for a behavioural syndrome between exploration and boldness in adult degus. We documented negative assortment by exploratory personality type; more exploratory animals shared burrows with less exploratory animals. However, tendency towards boldness and exploration were not predictive of association strength. Our results highlight a potential connection between personality and social structure in a communally nesting species..

Keywords

Personality, Behavioural syndrome, Sociality, *Octodon degus*.